US ERA ARCHIVE DOCUMENT

6-7-79

Validation Sheet

Formulation:

95.06%

Chemical Name:

Rhodia I prodione Technical

Validator:

Ray Matheny

Date:

6/7/79

Test Type:

Fish Acute Toxicity LC50

Test I.D. #:

UCES Proj. No. 11506-48-02

Citation:

Calmbacher, C.W., et al., May 31, 1978. The Acute Toxicity of RP 26019 Technical Assay 95.06%. Lot # 77103-01 to the Bluegill Sunfish (Lepomis macrochirus). Prepared for Rhodia, Inc. Prepared by Union Carbide Environmental Services, Union Carbide Corp. (within Accession No. 234810, 9/1/78).

Validation Category: Core

Result:

Species

Test

Confidence Limits

Bluegill Sunfish

Fish Acute LC₅₀:

(.5.2 - 7.7)

6.3 mg/l*

* As determined by the Spearman-Karber Estimator method

Validation Category Rationale:

Using the moving average method, this test was validated @ 6.2 mg/l (5.0-7.9).

Satisfies core data requirements.

Category Repairability/Rationale: None necessary.

Abstract:

Standard test procedures were used: reconstituted water has a pH of 7.29, water hardness of 46 mg/l as CaCO₃, total alkalinity of 29 mg/l as CaCO₃. Five concentrations and solvent control were used. Concentrations were: 1.0, 1.8, 3.2, 5.6 and 10.0 mg/l. Ten fish per concentration showed the mortalities at the three highest levels 1, 2 and 10, respectively. There were no mortalities in the control or solvent control groups. The average water temperature of the dilution water was 22.7 ± 0.7 C. The Do for the test groups ranged from 8.6 to 1.4 mg/l. Fish exposed to 1.8 mg/l and higher became irritated and exhibited abnormal surfacing behavior with gulping of air. At the 5.6 mg/l concentration fish showed erratic swimming and dark discoloration.

Rhodia I prodione Technical

Fish Acute Foxicity-96 hr Llso: Bluegill Sunfish
UC Es Pros. No. 11506-48-02

79/06/08. 12.37.50.TERMINAL: 24, P 20 UOFM CYBER 74 NOS 1.2 (05/24-BL).

USER NUMBER: ZZZ6944, USEPA TERMINAL: 24, P 20/TTY

RECOVER /SYSTEM: BASIC, OLD, A78LC50

READY.

9000 DATA 5

9001 DATA 10.0, 5.6, 3.2, 1.8, 1.0

9002 DATA 10,10,10,10,10 9003 DATA 10,2, 1,0,0

RUN

79/06/08. 12.40.17.

BASIC PROGRAM A78LC50

10 5.6 3.2 1.8	NUMBER EXPOSED 10 10 10	NUMBER DEAD 10 2 1	PERCENT DEAD 100 20. 10.	BINOMIAL PROB.(PERCENT) 9.76563E-2 5.46875 1.07422 9.76563E-2
1	10	0	Ŏ·	9.76563E-2

THE BINOMIAL TEST SHOWS THAT 3.2 AND 10 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 98.8281 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 6.72118

-----RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN G LC50 95 PERCENT CONFIDENCE LIMITS
2 .167754 6.21008 5.04934 7.94656

-----RESULTS CALCULATED USING THE PROBIT METHOD

TERATIONS G H GOODNESS OF FIT PROBABILITY
9 .311605 1 .244093

SLOPE = 6.68099

95 PERCENT CONFIDENCE LIMITS = 2.95155 AND 10.4104

LC50 = 6.11927